

ELECTRONIC TRADING SYSTEM  
FOR SIMULATING THE TRADING OF  
CARBON DIOXIDE EQUIVALENT EMISSION  
REDUCTIONS AND METHODS OF USE

5 [0001] This application claims the benefit of U.S.  
provisional patent application No. 60/313,842, filed  
August 21, 2001, which is hereby incorporated by  
reference herein in its entirety.

10 Background of the Invention

[0002] The present invention relates to electronic  
trading and more particularly, to an electronic trading  
system for simulating the trading of carbon dioxide  
equivalent emission reductions and methods of use.

15 [0003] Carbon dioxide equivalent (CO<sub>2</sub>e) is the  
universal unit of measurement used to indicate the  
global warming potential of greenhouse gases. Some  
examples of greenhouse gases are carbon dioxide (CO<sub>2</sub>),  
water vapor (H<sub>2</sub>O), methane (CH<sub>4</sub>), chlorofluorocarbons  
20 (CFCs), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs),  
perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).  
Possible methods of reducing CO<sub>2</sub>e emissions include  
reducing actual emissions, avoiding potential  
emissions, or removing and storing atmospheric carbon  
25 in a sink. Emission reductions may qualify for

accreditation under future international regulatory regimes, domestic regulatory regimes, or both.

[0004] In an evolving CO<sub>2</sub>e emission reductions trading market, entities such as countries,

5 corporations, or non-profit organisations may desire to simulate their participation prior to entry to gain a deeper understanding of the market. Such entities may, for example, need to understand their emission profiles, assess their potential obligations and  
10 associated liabilities, and learn to trade CO<sub>2</sub>e emissions reductions.

[0005] It is therefore desirable to provide an electronic trading system for simulating the trading of carbon dioxide equivalent emission reductions and  
15 methods of use.

#### Summary of the Invention

[0006] In accordance with the present invention, an electronic trading system for simulating the trading of carbon dioxide equivalent emission reductions and

20 methods of use are provided. The electronic trading system may be used to provide an electronic trading simulation to users of various computer equipment. An electronic trading application may be used to provide the users with the ability to use the electronic  
25 trading simulation.

[0007] In some embodiments, a user may be provided with the ability to create an organisation to participate in a trading simulation. This organisation may have characteristics that are similar to an  
30 organisation with which the user is affiliated. For example, if the user is affiliated with a certain company, then the organisation created for the trading

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in connection with a country that is participating in the electronic trading simulation, or any other suitable modification in connection with the electronic trading simulation.

5 Brief Description of the Drawings

10 [0011] The above and other objects and advantages of the invention will be apparent upon consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts throughout, and in which:

15 [0012] FIG. 1 is a schematic diagram of an illustrative electronic trading system suitable for implementation of an electronic trading simulation in accordance with some embodiments of the present invention;

[0013] FIG. 2 is a schematic diagram of illustrative computer equipment in accordance with some embodiments of the present invention;

20 [0014] FIG. 3 shows an illustrative main menu screen that may be provided to a user by an electronic trading application in accordance with some embodiments of the present invention;

25 [0015] FIG. 4 shows an illustrative log on screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

30 [0016] FIG. 5 shows an illustrative trading tools menu screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

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[0017] FIG. 6 shows an illustrative introductory screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

5 [0018] FIG. 7 shows an illustrative welcome screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

10 [0019] FIG. 8 shows an illustrative information screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

15 [0020] FIG. 9 shows an illustrative organisation menu screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

20 [0021] FIG. 10 shows an illustrative organisation review screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

[0022] FIG. 11 shows an illustrative position review screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

25 [0023] FIG. 12 shows an illustrative graphing screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

30 [0024] FIG. 13 shows an illustrative origination screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

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[0025] FIG. 14 shows an illustrative graphing screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

5 [0026] FIG. 15 shows an illustrative trading screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

10 [0027] FIG. 16 shows an illustrative position review screen that includes a late breaking news announcement that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

15 [0028] FIG. 17 shows an illustrative news screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

20 [0029] FIG. 18 shows an illustrative timeline screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

25 [0030] FIGS. 19-20 show an illustrative simulation report screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

[0031] FIG. 21 shows another illustrative information screen that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention;

30 [0032] FIG. 22 shows an illustrative real times maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading

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application in accordance with some embodiments of the present invention;

[0034] FIG. 24 shows an illustrative news article creation screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0035] FIG. 25 shows an illustrative customise simulation news screen that includes the unreleased news article that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

20 [0036] FIG. 26 shows an illustrative simulation maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0037] FIG. 27 shows an illustrative simulation  
25 parameter edit screen that may be provided to a user  
such as a simulation administrator by the electronic  
trading application in accordance with some embodiments  
of the present invention;

[0038] FIG. 28 shows an illustrative organisation  
30 maintenance screen that may be provided to a user such  
as a simulation administrator by the electronic trading  
application in accordance with some embodiments of the  
present invention;

[0039] FIG. 29 shows an illustrative organisation details screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0040] FIGS. 30-31 show an illustrative cost curve maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0041] FIGS. 32-33 show an illustrative yearly values maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0042] FIG. 34 shows an illustrative country maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention;

[0043] FIG. 35 shows a flow chart of illustrative steps involved in simulating the trading of carbon dioxide equivalent emission reductions in accordance with some embodiments of the present invention;

[0044] FIG. 36 shows a flow chart of illustrative steps involved in the user's participation in the trading simulation of FIG. 35 in accordance with some embodiments of the present invention; and

[0045] FIG. 37 shows a flow chart of illustrative steps involved in the simulation administrator's maintenance of the trading simulation in real-time of FIG. 35 in accordance with some embodiments of the present invention.

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Detailed Description of the Invention

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[0046] FIG. 1 is a schematic diagram of an illustrative electronic trading system 100 suitable for implementation of an electronic trading simulation in accordance with some embodiments of the present invention. Aspects of the invention apply to various types of electronic trading, but are described herein primarily in the context of electronic trading of carbon dioxide equivalent (CO<sub>2</sub>e) emission reductions for specificity and clarity.

[0047] System 100 may be used to provide an electronic trading simulation to users of various computer equipment. An electronic trading application may be used to provide the users with the ability to use the electronic trading simulation. In one suitable approach, the electronic trading application may run locally on computer equipment. Computer equipment, such as user computer equipment 102 and administrator computer equipment 108, may include a computer, processor, personal computer, laptop computer, handheld computer, personal digital assistant, computer terminal, any other suitable computing device, or a combination of such devices. In another suitable approach, the electronic trading application may run using a client-server or distributed architecture where a portion of the electronic trading application may be implemented locally on the computer equipment in the form of, for example, a client process. Another portion of the electronic trading application may be implemented at a remote location, such as on a server or any other suitable equipment as, for example, a server process. A server such as trading server 114 may be any suitable server, processor, computer, data

processing device, or a combination of such devices.  
In one example, trading server 114 may be a server  
powered by eSpeed, Inc. These arrangements are merely  
illustrative. Any other suitable arrangement for  
5 implementing the electronic trading application may be  
used.

[0048] As shown in FIG. 1, system 100 may include  
user computer equipment 102 that is connected by one or  
more communication links 104 to a computer network 106.  
10 System 100 may include administrator computer equipment  
108 that is connected by one or more communication  
links 110 to computer network 106. Administrator  
computer equipment 108 and user computer equipment 102  
may be similar to one another. However, a simulation  
15 administrator uses administrator computer equipment 108  
to perform administrative tasks in connection with the  
electronic trading simulation, while a user of the  
electronic trading simulation uses user computer  
equipment 102 to participate in the electronic trading  
20 simulation. A generalized schematic diagram of  
computer equipment, such as user computer equipment 102  
and administrator computer equipment 108, is shown in  
FIG. 2.

[0049] FIG. 2 is a schematic diagram of illustrative  
25 computer equipment 120. Control circuitry 122 and  
memory and storage 124 may have communications, memory,  
and processing circuitry suitable for supporting  
functions such as accessing the electronic trading  
application over line 126. Line 126 may be coupled to  
30 communications links such as links 104 and 110 of FIG.  
1. Text and graphics associated with the electronic  
trading simulation may be presented to a user using a  
display 128. Display 128 may be a computer monitor, a

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[0050] The user may interact with control circuitry

[0051] Referring back to FIG. 1, computer network

[0052] The components of system 100 may be interconnected using various communications links, such as links 104, 110, and 112. Communications links 104, 110, and 112 may include satellite paths, coaxial cable paths, fiber-optic paths, twisted pair paths, other wire or cable-based links, modems, wireless paths through free space, any other suitable paths, or a combination of such paths. Communications over communications links such as links 104, 110, and 112 may involve analog transmissions, digital

30 transmissions, wireless transmissions, microwave  
transmissions, radio-frequency transmissions, optical  
transmissions, audio transmissions, any other suitable  
type of transmissions, or a combination of such

transmissions. Communications may involve Internet transmissions, private network transmissions, packet-based transmissions, television channel transmissions, transmissions in the vertical blanking interval (VBI) of a television channel or on a television sideband, MPEG transmissions, or any other suitable type of transmissions. Communications may involve wireless pager or other messaging transmissions. Communications links 104, 110, and 112 may include cable connected to cable modems, digital subscriber lines, integrated services digital network (ISDN) lines, or any other suitable paths.

[0053] Users at user computer equipment 102 may participate in the electronic trading simulation by providing trading information and by otherwise interacting with the electronic trading simulation. The electronic trading simulation may provide a user at user computer equipment 102 with screens containing various simulation information. For example, the user may be presented with screens that allow the user to make trades, view and update information on the user's trading organisation, or any other suitable screen in connection with the simulation.

[0054] The electronic trading simulation may provide the user with interactive screens containing menus and selectable options that allow the user to navigate through the electronic trading simulation and participate in the electronic trading simulation. With user computer equipment 102, the user may use a keyboard, mouse, trackball, touch pad, or other suitable input or pointing device to navigate the various menus and selectable options.

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[0055] The user may interact with the electronic trading simulation by accessing the electronic trading application with user computer equipment 102. The user may access the electronic trading application by  
5 browsing to an Internet web site or a site on a private network, by running a local program, or by any other suitable method.

[0056] Simulation administrators may interact with the electronic trading simulation in substantially the  
10 same manner as users. The electronic trading simulation may, however, provide simulation administrators with access to additional functions of the electronic trading simulation so that simulation administrators may perform administrative tasks.

[0057] An electronic trading system for simulating the trading of carbon dioxide equivalent (CO<sub>2</sub>e) emission reductions and methods of use are provided. Users may be corporations, countries, or any other suitable entity that desires to simulate the trading of  
15 greenhouse gas emission reductions. Emission reductions may refer to a reduction in actual emissions, avoidance of potential emissions, or the removal and storage of atmospheric carbon in a sink. Users may, for example, invest in emission reductions  
20 in the anticipation that those reductions will qualify for accreditation under future international regulatory regimes, domestic regulatory regimes, or both. Emission reductions are referred to as carbon dioxide equivalent (CO<sub>2</sub>e) emission reductions.

[0058] Referring now to FIGS. 3-34, illustrative screens that may be provided by an electronic trading application are provided. Specifically, FIGS. 9-34 are illustrative screens that may be included in an  
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electronic trading simulation of CO<sub>2</sub>e emission reductions. The screens may be displayed on a display such as display 128 of FIG. 2. The format and contents of such screens may be modified to accommodate displays of different sizes and shapes, such as computer monitors and laptop computer displays (as shown), handheld computer displays, personal digital assistant displays, or any other suitable displays.

[0059] FIG. 3 shows an illustrative main menu screen 200 that may be provided to a user by the electronic trading application in accordance with some embodiments of the present invention. Main menu screen 200 may be provided when the user initially accesses the electronic trading application. Main menu screen 200 may provide the user with options in connection with electronic trading, including options to access the electronic trading simulation. As shown, main menu screen 200 may include tabs such as a home tab 202, a trading tab 204, a CO<sub>2</sub>e strategies tab 206, a tools tab 208, a news and insights tab 210, a membership tab 212, or any other suitable tab. These tabs may allow the user to access menu screens associated with the tabs by, for example, navigating a pointer arrow over the tabs and pressing an appropriate key on a mouse or a keyboard. The user may use such an approach or any other suitable approach in this screen and the screens that follow to select any on-screen selectable options.

[0060] Main menu screen 200 may include options such as a carbon trading option 214, a national markets option 216, a CO<sub>2</sub>e strategies option 218, a business tools option 220, a trading tools option 222, a carbon insights option 224, a news and events option 226, a become a CO<sub>2</sub>e.com member option 228, or any other

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suitable option. When the user selects an option, the electronic trading application may display a menu screen associated with the option. The menu screen displayed when the user selects an option may  
5 correspond to a menu screen provided when the user selects a corresponding tab. For example, the electronic trading application may provide the user with the same menu screen when the user selects membership tab 212 and when the user selects become a  
10 CO2e.com member option 228.

[0061] Main menu screen 200 may include an announcements area 230. Announcements area 230 may include greetings, information about the trading web site, contact information, current news items that are  
15 related to the web site or to CO<sub>2</sub>e emission reductions, or any other suitable announcements.

[0062] Main menu screen 200 may include a side menu area 232 that provides the user with selectable options. Side menu area 232 may be accessible from  
20 various screens of the electronic trading application. Side menu area 232 may include a log on option 234, a frequently asked questions (FAQs) option 236, a glossary option 238, a search option 240, an about us option 242, a contact us option 244, a policies option  
25 246, or any other suitable option.

[0063] Main menu screen 200 of FIG. 3 and the screens provided in FIGS. 4-34 may include a scroll bar 248. Scroll bar 248 allows the user to scroll up and down on a screen to portions of the screen that are not  
30 visible due to size limitations of the display device.

[0064] Various screens of the electronic trading application, such as information screens that contain general information about the trading application, may

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be available to any user of the trading application. However, to access screens provided by the electronic trading application that are reserved for registered users only, the user may log onto the trading application or register to become a member. The user may select log on option 234 from side menu area 232 to access a log on screen such as that displayed in FIG. 4.

[0065] FIG. 4 shows an illustrative log on screen 300 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. As shown, log on screen 300 may include a username text box 302, a password text box 304, a log on button 306, a trading member registration button 308, a log on help area 310, or any other suitable items related to logging onto the electronic trading application.

[0066] Username text box 302 may be any suitable area where the user of the electronic trading application may enter a username. Password text box 304 may be any suitable area where the user may enter a password corresponding to the username entered in username text box 302. The user may enter the username and password by, for example, navigating a pointer arrow over text boxes 302 and 304, pressing an appropriate key on a mouse or a keyboard such that a cursor appears, and inputting text using a keyboard or other suitable device. The user may use such an approach in this screen and the screens that follow to enter text in a text box.

[0067] The user may select log on button 306 after entering the username and password in boxes 302 and 304, respectively. When the user selects log on button

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306, the electronic trading application may log the user onto the web site provided by the electronic trading application.

5 [0068] Trading member registration button 308 may provide a user who is not already a trading member with a registration screen (not shown) that may allow the user to register as a trading member.

10 [0069] Log on help area 310 may provide the user with assistance in logging onto the web site. For example, log on help area 310 may help the user recover a forgotten username or password.

15 [0070] When the user selects log on button 306 of FIG. 4, the electronic trading application may provide the user with main menu screen 200 of FIG. 3. The electronic trading application may, however, provide a log out option in the place of a log on option 234. Because the user is logged on, the electronic trading application may provide the user with access to a trading tools menu screen. The user may access the  
20 trading tools menu screen such as the screen displayed in FIG. 5 by selecting tools tab 208 or trading tools option 222 of FIG. 3. From the trading tools menu screen, the electronic trading application may provide the user with access to the electronic trading  
25 simulation.

[0071] FIG. 5 shows an illustrative trading tools menu screen 400 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. From this menu,  
30 the user may access trading tools related to CO<sub>2</sub>e emission reductions. One such tool is the electronic trading simulation of CO<sub>2</sub>e emission reductions. As shown, trading tools menu screen 400 may include a side

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menu area 402 and an announcements area 404. Trading tools menu screen 400 may include options such as a business tools option 406, an internal markets option 408, a corporate trading sessions option 410, a trading simulations option 412, or any other suitable option related to trading tools.

[0072] Side menu area 402 may include options that provide the user with the ability to access screens that are related to trading tools. For example, side menu area 402 may include a business tools option, an internal markets option, a trading simulations option, a corporate trading sessions option, or any other suitable option related to trading tools. Side menu area 402 may include general options such as a log out option, a search option, an about us option, a contact us option, a policies option, or any other suitable general options. Announcements area 404 may include information related to business tools, trading tools, internal markets, trading simulations, corporate trading sessions, or any other suitable information.

[0073] When the user selects an option such as business tools option 406, the electronic trading application may provide the user with access to various business tools to assist the user in the quantification of emission liabilities and assets. When the user selects an option such as internal markets option 408, the electronic trading application may provide the user with access to an internal carbon trading application. When the user selects corporate trading sessions option 410, the electronic trading application may provide the user with the ability to engage in customized corporate trading sessions. When the user selects trading simulations option 412, the electronic trading

application may provide the user with access to the electronic trading simulation.

[0074] The electronic trading simulation of the present invention may allow the user to simulate the trading of CO<sub>2</sub>e emission reductions. The user may create an organisation to participate in a trading simulation that has characteristics that are similar to an organisation with which the user is affiliated. For example, if the user is affiliated with a certain company, then the organisation created for the trading simulation may have similar attributes as the user's company, such as financial and geographic attributes. In another example, if the user is affiliated with a certain country, then the organisation created for the trading simulation may have similar attributes as the user's country has on the whole, such as financial and geographic attributes. The user's organisation may participate in the trading simulation along with any number of participants. Such participants may include other users, the simulation administrator, or a combination of both. Through the simulation, the user may develop an understanding of the operation of a CO<sub>2</sub>e emission reductions market

[0075] FIG. 6 shows an illustrative introductory screen 500 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display introductory screen 500 when the user selects trading simulations option 412 of FIG. 5. Introductory screen 500 may include an introductory description of the trading simulation. As shown, introductory screen 500 may include a

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description region 502, a review registration option 504, and a run option 506.

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[0076] Description region 502 may include introductory information in connection with the trading  
5 simulation, such as how to become a participant in the simulation, the benefits of participating in the simulation, the software requirements of the simulation, or any other suitable introductory information. Review registration option 504 may  
10 provide the user with the ability to review any registration options associated with the user.

[0077] Run option 506 may provide the user with the ability to access the main menu screen for the electronic trading simulation. When the user selects  
15 run option 506, the electronic trading application may display a screen that welcomes the user to the electronic trading simulation.

[0078] FIG. 7 shows an illustrative welcome screen 600 that may be provided to the user by the electronic  
20 trading application in accordance with some embodiments of the present invention. As shown, welcome screen 600 may include an information region 602, an about the simulation option 604, and a run button 606. Information region 602 may include information in  
25 connection with the trading simulation. When the user selects about the simulation option 604, the electronic trading application may display a screen that includes information in connection with the electronic trading simulation.

30 [0079] FIG. 8 shows an illustrative information screen 700 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic

trading application may display information screen 700 when the user selects about the simulation option 604 of FIG. 7. Information screen 700 may provide the user with a description of the electronic trading simulation in a simulation description region 702. Description region 702 may include any assumptions that were made in the design of the electronic trading simulation, a list of the possible participants in the electronic trading simulation, instructions for participating in the electronic trading simulation, or any other information relevant to the user's participation in the electronic trading simulation.

[0080] Referring back to welcome screen 600 of FIG. 7, when the user selects run button 606, the electronic trading application may provide the user with access to the electronic trading simulation. The electronic trading application may display a set-up screen that allows the user to create an organisation for participation in the electronic trading simulation.

[0081] FIG. 9 shows an illustrative organisation menu screen 800 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display organisation menu screen 800 when the user selects run button 606 of FIG. 7 to run the electronic trading simulation. In another suitable approach, the electronic trading application may display organisation menu screen 800 when the user selects an organisation option 818 from a side menu area 802. Side menu area 802 may be included in any of FIGS. 9-21 (e.g., the screens that are provided to a user of the trading simulation). Side menu area 802 may include options related to the

trading simulation such as organisation option 818, a position option 820, an originate option 822, a trade option 824, a news option 826, a reporting option 828, a demo option 830, a log out option 834, and an about 5 the simulation option 836. The options included in side menu area 802 may allow the user to access various screen within the electronic trading simulation. For example, when the user selects log out option 834 from organisation menu screen 800, the electronic trading 10 application may display a log out screen.

[0082] Organisation menu screen 800 may provide the user with the ability to select an organisation for participation in the trading simulation. For example, the user may select one of four different organisations: buyers, suppliers, traders, or non-government. However, the electronic trading application may provide the user with the ability to select an organisation from any number of possible organisations. The user may select an organisation that represents a projected position within the CO<sub>2</sub>e emission reductions trading market. For example, if the user wishes to simulate CO<sub>2</sub>e emission reduction trading as an oil company, then the user may select a buyer organisation. This allows the user to gain a more accurate understanding of how the user's corporation will fare in the greenhouse gas market.

[0083] The user may select a specific organisation by utilizing the drop-down menu available for each organisation in, for example, a buyer organisation region 804, a supplier organisation region 806, a trader organisation region 808, or a non-government organisation region 810. As shown in buyer organisation region 804, the user has chosen a buyer

organisation (e.g., Compliance Tester - 3). Compliance Tester - 3 may be a buyer organisation that was set-up prior to the trading simulation by, for example, the simulation administrator. Compliance Tester - 3 may have attributes that are similar to those of the user's actual organisation (i.e., the organisation that the user wishes to simulate). The name assigned to the organisation, for example, Compliance Tester - 3, may be assigned by the simulation administrator as a reference for the organisation until the user changes the name, described as follows. In a new organisation name text box 812, the user may input a desired name for the selected organisation. As shown, the user has inputted "Laura's Cement Co." in new organisation name text box 812. The user may select a select button 814 to finalize the selection of the organisation made in organisation menu screen 800.

[0084] When the user selects a view button 816, the electronic trading application may present the user with a detailed description of the selected organisation (e.g., the buyer organisation Compliance Tester - 3).

[0085] FIG. 10 shows an illustrative organisation review screen 900 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display organisation review screen 900 when the user selects view button 816 of FIG. 9. Organisation review screen 900 may include a details region 902 and a position data button 904.

[0086] Details region 902 may include details in connection with the organisation selected in FIG. 9 (e.g., the buyer organisation Compliance Tester - 3).

As described above, such details may be provided by the user prior to the trading simulation and may, for example, be inputted by the simulation administrator. These details may be attributes of the user's actual  
5 organisation (e.g., the user's actual company, country, non-profit organisation, or other suitable entity), and may thereby provide a more realistic simulation of the user's organisation in the CO<sub>2</sub>e emission reduction trading market.

10 [0087] Details region 902 may include the organisation name (e.g., Laura's Cement Co.), the organisation type (e.g., buyer), the current status of the organisation (e.g., solvent), the country of the electronic trading simulation in which the organisation  
15 is situated (e.g., Utopia), the annual cash allowance (e.g., US\$ 1,000,000/year), the borrowing limit (e.g., US\$ 10,000,000), the credit type or types created (e.g., IR-Internal Reductions), and the description of the organisation (e.g., owns and operates a single-  
20 cycle gas power generation facility).

[0088] In details region 902, the current status may represent the organisation's status in real-time or at the end of each round of the trading simulation. Possible statuses are solvent or insolvent. Solvent  
25 organisations are those that have money, and insolvent organisations are those that are bankrupt (e.g., organisations that have no money remaining to participate in the simulation).

[0089] In one suitable arrangement, the country in  
30 details region 902 may be one of three fictitious countries, such as Narnia, Utopia, or Gondwana. Countries such as Narnia and Utopia may be Annex B countries. An Annex B country, as defined by the Kyoto

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Protocol, is an industrialized country that has a cap on its emissions. A country such as Gondwana may be a non-Annex B country. A non-Annex B country is a developing nation. Although this example describes the trading simulation as having three countries, the simulation may have any number of countries, and each country may be one of a developing country, an industrialized country, or any other type of country as defined under the Kyoto Protocol or other CO<sub>2</sub>e emission reduction guidelines.

[0090] The borrowing limit in details region 902 may be an amount that the user's organisation can borrow from a lending institution. This amount of money may be borrowed with an interest rate corresponding to the current interest rate. For example, if the user is participating in the trading simulation in the United States, then the interest rate on the loan may be the current interest rate in the United States at the time of the trading simulation. This helps to make the trading simulation as realistic as possible.

[0091] When the user selects position data button 904, the electronic trading application may provide additional data in connection with the user's organisation. For example, the electronic trading application may provide the user with data in connection with the organisation's emissions, available cash, or any other suitable attribute.

[0092] FIG. 11 shows an illustrative position review screen 1000 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display position review screen 1000 when the user selects position data button 904 of

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FIG. 10. In another suitable approach, the electronic trading application may display position review screen 1000 when the user selects position option 820 from side menu area 802 of any other screen.

5    **[0093]**     Position review screen 1000 may include data in connection with the user's organisation. For example, the user may be provided with data in connection with the organisation's emissions, available cash, or any other suitable attributes. For a  
10   description of the data included in position review screen 1000, the user may select a data description option 1004. When the user selects data description option 1004, the electronic trading application may display a screen (not shown) providing detailed  
15   definitions of specific data fields. For example, the electronic trading application may provide a glossary of position data terms, such as business-as-usual, internal reductions, compliance period, or any other terms related to position data.

20   **[0094]**     The user may select an organisation data button 1006 to view data in connection with the user's organisation. When the user selects organisation data button 1006, the electronic trading application may display a screen such as organisation review screen 900  
25   of FIG. 10.

**[0095]**     The electronic trading application may provide the user with a current cash position 1008 that represents the amount of cash currently available to the user's organisation. This value may be affected by  
30   sales, purchases, penalties, or any other suitable transaction in connection with the trading simulation.

**[0096]**     The electronic trading application may provide the user with a number of data tables in

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connection with the user's organisation. For example, an emissions and reductions table 1010 may provide the user with values for business-as-usual (BAU) emissions and internal reductions (IRs) over a span of time.

5 Business-as-usual emissions are an estimate of an organisation's future and current emissions under normal operating circumstances. Internal reductions are reductions in CO<sub>2</sub>e emissions that are made within an organisation. The values provided in emissions and  
10 reductions table 1010 may be given in metric tons, or tonnes.

[0097] A year region 1020 may present the user with a year corresponding to each emission and reduction value. The electronic trading application may present  
15 any number of years to the user. The electronic trading application may provide the user with the value of business-as-usual emissions minus internal reductions and may provide a graph related to the calculation when the user selects a graph button 1012.

20 [0098] FIG. 12 shows an illustrative graphing screen 1100 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. Graphing screen 1100 may be provided in response to a selection of graph button  
25 1012 of FIG. 11. Graphing screen 1100 may provide the user with a graph showing the relationship between the actual emissions of CO<sub>2</sub>e and the year. Graphing screen 1100 may include a graph region 1102 and a back button 1104. Graph region 1102 may include a graph that is  
30 related to the data in emissions and reductions table 1010 (FIG. 11). Back button 1104 may provide the user with the ability to return to the previous screen. For example, when the user selects back button 1104, the

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electronic trading application may display position screen 1000 of FIG. 11.

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[0099] Referring back to FIG. 11, the electronic trading application may provide the user with a data table such as a credits table 1014. Credits table 1014 may provide the user with values for emission allowances (EAs). Emission allowances are the total emissions allowed to be released by an organisation during a given period of time. Prior to determination of the exact emission allowance per year by the simulation administrator, the electronic trading application may provide the user with a low-end expected allocation and a high-end expected allocation. These allocation values are estimates between which the exact emission allowance may fall. The electronic trading application may provide the emission allowances in tonnes and over a span of time. A year region 1022 may present the user with a year corresponding to each emission allowance allocation value. Credits table 1014 may present any number of years to the user.

[0100] The electronic trading application may provide the user with a data table such as a compliance calculator table 1016. Compliance calculator table 1016 may provide the user with a comparison between actual emissions and credits. Emissions and reductions table 1010 may provide the values for the actual emissions in compliance calculator table 1016. For example, the actual emissions may be the business-as-usual emissions minus the internal reductions produced by the user's organisation. Credits table 1014 may provide the values for the credits. For example, the credits may be the emission allowances allotted to the user's organisation. The electronic trading

application may provide the comparison between the actual emissions and credits as a compliance requirement. The compliance requirement is the amount of CO<sub>2</sub>e emission reductions that the user's organisation  
5 must achieve by the end of each trading session (e.g., a year) in order to comply with, for example, the Kyoto Protocol. Compliance calculator table 1016 may provide the compliance requirements in tonnes. A year region  
10 1024 may present the user with a year corresponding to each compliance requirement value. Year region 1024 may present any number of years to the user.

[0101] The electronic trading application may provide the user with the ability to generate credits (e.g., for supplier organisations) or internal  
15 reductions (e.g., for buyer organisations). From a screen such as position review screen 1000 of FIG. 11, the electronic trading application may provide the user with access to such an origination screen.

[0102] FIG. 13 shows an illustrative origination  
20 screen 1200 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display origination screen 1200 when the user selects originate option 822 from side  
25 menu area 802 of any other screen. Origination screen 1200 may provide the user with the ability to generate credits or internal reductions (IRs), depending on the type of organisation. For example, if the user's organisation is a supplier, then the organisation may  
30 generate credits. The credits created by a supplier organisation are tradeable. In another example, if the user's organisation is a buyer, then the organisation may generate internal reductions. The internal

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reductions created by a buyer organisation are not tradeable due to regulations within CO<sub>2</sub>e emission reductions trading markets.

[0103] Origination screen 1200 may include an  
5 instruction region 1204, a total volume text box 1206, a calculate button 1208, an accept button 1210, a cancel button 1212, a marginal abatement/supply cost table 1214, a total originated field 1216, an origination description option 1218, and a graph button  
10 1220.

[0104] The electronic trading application may provide the user with instructions in connection with the origination of credits or internal reductions in instruction region 1204. Instruction region 1204 may  
15 provide the user with steps to follow in order to originate credits or internal reductions. For example, the first step that is provided may be to input the total amount of tonnes of credits or internal reductions desired in a specified text box. The next  
20 step may be to click a calculation button to determine the total cost for the origination of credits or internal reductions. The total cost may be a function of the user's organisation's marginal abatement/supply cost curve. The final step may be to click an accept  
25 button to input the origination of credits or internal reductions, or to click a cancel button to reset origination screen 1200 to its original values.

[0105] In total volume text box 1206, the electronic trading application may provide the user with the  
30 ability to enter a number for the total volume of credits or internal reductions for the user's organisation to generate over a span of time. For example, the user's organisation, Compliance Tester-3,

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is a buyer and therefore generates IRs. As shown, the user has inputted an entry of 100,000 tonnes of internal reductions over a span of ten years. In this example, the cost of generating one tonne of internal  
5 reductions is one dollar. Therefore, the generation of 100,000 tonnes of internal reductions costs \$100,000. The electronic trading application may provide the user with a calculate button 1208. When the user selects calculate button, the electronic trading application  
10 may calculate the effect that this internal reduction may have on the user's organisation. When the user selects calculate button 1208, the electronic trading application may update marginal abatement/supply cost table 1214 accordingly. Total originated field 1216  
15 may update accordingly when the user selects calculate button 1208.

[0106] The user may select accept button 1210 if the effect that the selected internal reduction (as shown in total volume text box 1206) has on the user's  
20 organisation is acceptable. The user may select cancel button 1212 if the effect that the selected internal reduction has on the user's organisation is unacceptable. When the user selects cancel button 1212, the electronic trading application may delete the  
25 value in total volume text box 1206 so that the user may enter a different value.

[0107] Origination screen 1200 may include marginal abatement/supply cost table 1214. As described above, marginal abatement/supply cost table 1214 may update  
30 accordingly when the user selects calculate button 1208. Origination screen 1200 may include origination description option 1218. The user may select origination description option 1218 to view a screen

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(not shown) providing definitions and descriptions of the elements of origination screen 1200.

[0108] The electronic trading application may provide a graph related to marginal abatement/supply cost table 1214 when the user selects graph button 1220.

[0109] FIG. 14 shows an illustrative graphing screen 1300 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display graphing screen 1300 when the user selects graph button 1220 of FIG. 13. Graphing screen 1300 may provide the user with a graph showing the relationship between the volume of CO<sub>2</sub>e and the price. Graphing screen 1300 may include a graph region 1302 and a back button 1304.

[0110] Graph region 1302 may include a graph that is related to the data in marginal abatement/supply cost table 1214 (FIG. 13). Back button 1304 may provide the user with the ability to return to the previous screen. For example, when the user selects back button 1304, the electronic trading application may provide origination screen 1200 of FIG. 13 to the user.

[0111] The trading simulation provided by the electronic trading application may include a trading screen. The trading screen may allow the user to place bids and offers for CO<sub>2</sub>e emission reductions, buy and sell emission reductions, or perform any other tasks in connection with CO<sub>2</sub>e emission reductions trading. The electronic trading application may provide the user with the ability to access the trading screen at any time during the trading simulation.

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[0112] FIG. 15 shows an illustrative trading screen 1400 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display trading screen 1400 when the user selects trade option 824 from side menu area 802 of any other screen. In another suitable approach, the electronic trading application may display trading screen 1400 when the user selects a trading button or link included in any suitable screen. Trading screen 1400 may be provided in a new window over another screen (e.g., over the screen from which trading screen 1400 was selected).

[0113] Trading screen 1400 may include a trading round region 1402. Trading round region 1402 may present the user with the current trading round. For example, the current trading round may be year 2001 to year 2002. Trading screen 1400 may include one or more trade type fields 1404. Trade type fields 1404 may present possible trade types to the user. For example, one organisation participating in the simulation may be a supplier from the country of Utopia (e.g., Annex B). This type of organisation may create joint implementation (JI) credits. Joint implementation credits are credits produced as a result of projects jointly implemented by organisations within different industrial nations. In contrast to a supplier in an Annex B nation, a supplier from a country such as Gondwana, a third-world country (e.g., non-Annex B), may produce clean development mechanism (CDM) credits. Clean development mechanism credits are credits produced as a result of emission reduction projects in developing countries.

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[0114] Credits such as joint implementation and clean development mechanism credits may be created in emission reduction categories such as forest sequestration, land conservation, soil conservation and  
5 land use, waste CO<sub>2</sub> recovery and deep injection, building efficiency, commercial and industrial efficiency, fuel switching, renewable energy, transportation, animal waste methane recovery, coal bed methane, landfill biomass capture, process change, or  
10 any other suitable category for emission reduction.

[0115] Trading screen 1400 shows two trade type fields 1404 that include the text "CDM\_Tech\_GDW" and "JI\_LandUse\_UTP". In another suitable arrangement, any number of trade type fields 1404 may be provided to the  
15 user. CDM\_Tech\_GDW, for example, may signify clean development mechanism credits (CDM) of a technology category (Tech) in the country of Gondwana (GDW). JI\_LandUse\_UTP, for example, may signify joint implementation credits (JI) of a land use category  
20 (LandUse) in the country of Utopia (UTP).

[0116] Trading screen 1400 may include one or more bid fields 1406 and one or more offer fields 1408. One bid field 1406 and one offer field 1408 may be associated with a trade type as indicated by trade type  
25 field 1404. Current trade fields 1410, found adjacent to fields 1406 and 1408, may include bids and offers, respectively. Such bids and offers that are currently available may be associated with the corresponding trade type given in trade type field 1404. In one  
30 example, a user may make an offer to sell 18,000 tonnes of emission reductions at \$6.35/tonne. Such an offer may be presented in one of the current trade fields 1410. The offer may be associated with a specific

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date, such as a year. The electronic trading application may provide a year region 1412 so that a trade found in one of the current trade fields 1410 may be associated with a specific year. As shown, the offer to sell 18,000 tonnes at \$6.35/tonne was made for the year 2004.

[0117] The user may input bids to buy, offers to sell, actual purchases, and actual sales in various text boxes in trading screen 1400. Each bid, offer, purchase, and sale may be associated with a specific year. Prior to entering the desired bid, offer, purchase, or sale, the user may select a trade field corresponding to the desired year for the transaction to take place. For example, when the user selects a trade field 1458 (e.g., offer, JI\_LandUse\_UTP, year 2005), the electronic trading application may provide the user with the ability to enter an offer to sell CO<sub>2</sub>e emission reductions for the year 2005. As shown, a heading field 1460 may present a heading corresponding to the selected trade field 1458.

[0118] The electronic trading application may provide the user with the ability to input a bid to buy CO<sub>2</sub>e emission reductions. As described in general above, the user may select a year for the trade by selecting a suitable trade field. The user may input the bid to buy CO<sub>2</sub>e emission reductions in a buy text box 1414. For example, the user may enter a number of tonnes to buy in buy text box 1414. The user may enter a price per tonne of CO<sub>2</sub>e emission reductions in a price text box 1416. The electronic trading application may provide a go button 1418 so that the user may input the bid to buy CO<sub>2</sub>e emission reductions. When the user selects go button 1418, the bid made in buy text box





[0123] Trading screen 1400 may include a trade information region 1448. Trade information region 1448 may include information such as active orders, trade history, market history, status, or any other suitable information in connection with the trading simulation.

[0125] The electronic trading application may provide the simulation administrator with the ability to create news announcements throughout the duration of the simulation. The news announcements may reflect current policy decisions, natural disasters, or any other suitable event related to CO<sub>2</sub>e emission reductions. The news announcements may impact the user's organisation (e.g., by reducing or increasing the organisation's emission reductions). In another suitable approach, the news announcements may create noise to simulate an actual trading environment, thereby drawing the user away from other portions of the trading simulation to a screen that presents any breaking news. The electronic trading application may provide the user with an announcement that there is breaking news in any screen of the trading simulation.

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[0126] FIG. 16 shows another illustrative position review screen 1500 that includes a late breaking news announcement that may be provided to the user by the electronic trading application in accordance with some  
5   embodiments of the present invention. Position review screen 1500 is substantially similar to position review screen 1000 of FIG. 11. However, as illustrated, position review screen 1500 includes a late breaking news announcement 1502. Late breaking news  
10   announcement may inform the user that there are one or more news announcements available for review. The example of the position review screen including a breaking news announcement is merely illustrative. The electronic trading application may provide a late  
15   breaking news announcement to the user in any other trading simulation screen.

[0127] FIG. 17 shows an illustrative news screen 1600 that may be provided to the user by the electronic trading application in accordance with some embodiments  
20   of the present invention. The user may access news screen 1600 at anytime during the simulation to view breaking news announcements, news announcements that the user has already reviewed, or both. The electronic trading application may display news screen 1600 when  
25   the user selects news option 826 from side menu area 802 of any other screen.

[0128] News screen 1600 may include a news announcements region 1602. News announcements region 1602 may include one or more news announcements. A  
30   breaking news announcement in news announcements region 1602 may have a highlighted headline to alert the user to its presence. A news announcement that the user has

already reviewed, in contrast, may have a headline in a normal, unhighlighted font.

[0129] In one suitable approach, a news announcement such as a news announcement 1604 may have an impact on the user's organisation. For example, the simulation administrator may input news announcement 1604 so that is reduces or increases the user's current level of CO<sub>2</sub>e emission reductions. News announcement 1604 has a headline stating that "Bush rejects Kyoto." A realistic impact of this news announcement may be a drastic reduction in value of an organisations emission reductions, especially for an organisation that is simulating an American corporation.

[0130] In another suitable approach, news announcement 1604 may create noise to simulate an actual trading environment. For example, news announcement 1604 may create a distraction to the user, thereby drawing the user away from other portions of the trading simulation to news screen 1600.

[0131] News announcement 1604 may include a date 1606 and a time 1608. Date 1606 and time 1608 show the user that news announcement 1604 is associated with a specific release date and time. However, date 1606 and time 1608 may differ from the date on which news announcement 1604 may impact the user's organisation. For example, the simulation administrator may create news announcement 1604 so that the impact, if any, is for a particular date in the future. This may allow news announcement 1604 to function as a realistic news release (e.g., the impact is not felt instantaneously upon the release of the news).

[0132] During the trading simulation, the electronic trading application may maintain a timeline of the

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various sessions that form the simulation. For example, the trading simulation may include sessions such as registration, analysis, trading, reconciliation, or any other suitable session. The electronic trading application may provide the user with access to a timeline screen.

[0133] FIG. 18 shows an illustrative timeline screen 1700 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display timeline screen 1700 when the user selects timeline option 830 from side menu area 802 of any other screen. Timeline screen 1700 may include a timeline 1708 of the trading simulation.

Timeline 1708 may include a list of sessions involved in the trading simulation, a start time for each session, an end time for each session, and a status for each session. Possible sessions may include registration, analysis, trading, reconciliation, or any other suitable trading session.

[0134] In the example shown in timeline 1708, the trading simulation may start with a registration session on June 14, 2001. As shown, the registration session started at 10:50 AM and ended at 11:00 AM. The duration of a session, such as ten minutes for the registration session, is set by the simulation administrator either during the simulation or prior to the start of the simulation. Because the registration session has started and ended, the status of the registration session is "completed."

[0135] Following the registration session, the trading simulation may include a number of analysis and trading sessions. An analysis session is a session

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during which the user may make transactions, such as generating additional credits or internal reductions as shown in FIG. 13, in preparation for the next trading round. During an analysis session, trades may not be made. A trading session (as shown in FIG. 15) is a session during which the user may buy and sell CO<sub>2</sub>e emission reductions. As shown, in the trading session from year 2008 to year 2012, the status of the session is "executing." Thus, the session is not yet over, as demonstrated by the end time of 11:50 AM and a current server time 1706 of 11:49 AM.

[0136] Timeline screen 1700 may include a remaining time field 1704. Remaining time field 1704 may include the time remaining in the current round of the trading simulation (e.g., 11 seconds). Current server time field 1706 may include the date and time at the location of the trading server, for example, trading server 114 of FIG. 1. If the trading server is located in New York, for example, current server time field 1706 may include the current date and time in the Eastern time zone.

[0137] As shown in timeline 1708, the trading simulation may close with a session called reconciliation. During reconciliation, the electronic trading application may provide the user with one more chance to generate credits or internal reductions. Following reconciliation, when the trading simulation is finished, the electronic trading application may provide the user with a simulation report, alerting the user that the trading simulation is complete.

[0138] FIGS. 19-20 show an illustrative simulation report screen that may be provided to the user by the electronic trading application in accordance with some

embodiments of the present invention. The simulation report screen in FIGS. 19-20 may provide the user with a final report of the trading simulation at the conclusion of the simulation. The electronic trading application may display the simulation report screens when the user selects reporting option 828 from side menu area 802 of any other screen.

[0139] FIG. 19 shows a portion 1800 of the simulation report screen. The electronic trading application may display another portion of the screen, as shown in FIG. 20, when the user uses scroll bar 248 to access the other portion. Simulation report screen 1800 may include an additional opportunities region 1804. Additional opportunities region 1804 may present the user with a list of trading tools that may help to familiarize the user with CO<sub>2</sub>e emission reductions trading. Category winners region 1806 may provide the user with a list of any categories that the user won. As shown, category winners region 1806 shows that the user "did not win any categories."

[0140] FIG. 20 is another portion 1820 of the simulation report screen. Simulation report screen 1820 may include a performance chart 1822 and a performance report table 1824. Performance chart 1822 may track an average clearing price per tonne of CO<sub>2</sub>e emission reductions, an average purchase price per tonne of CO<sub>2</sub>e emission reductions, an average sale price per tonne of CO<sub>2</sub>e emission reductions, or any other suitable measure of performance. These prices may provide the user with a graphical representation of how the user performed throughout the duration of the trading simulation. As shown, only one curve is

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provided. However, any number of curves as described above may be provided.

[0141] Performance report table 1824 may provide the user with a list of one or more actions that the user performed during the trading simulation. Performance report table 1824 may provide the user with the session in which the action occurred, the action, the instrument (e.g., the type of trade), the volume bought or sold, the price, the comment on the action, the cash value available after the action, or any other suitable performance information.

[0142] At any time during or prior to the trading simulation, the electronic trading application may provide the user with access to a screen including general information about the trading simulation. For example, such a screen may include the rules of the simulation, any assumptions made in the simulation, or any other information relevant to the user's participation in the trading simulation.

[0143] FIG. 21 shows an illustrative information screen 1900 that may be provided to the user by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display information screen 1900 when the user selects about the simulation option 836 from side menu area 802 of any other screen. Information screen 1900 is substantially similar to information screen 700 of FIG. 8. However, as illustrated, information screen 1900 includes a side menu area. The side menu area may demonstrate that the user is logged onto the simulation and therefore has access to the screens for which links are provided in the side menu area.

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[0144] FIGS. 22-34 show maintenance screens that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present

5 invention. The simulation administrator may take part in the trading simulation using, for example, administrator computer equipment 108 of FIG. 1. The simulation administrator may perform administrative tasks to maintain various aspects of the simulation.  
10 These maintenance tasks may be performed behind the scenes so that participants in the trading simulation are unaware of the tasks.

[0145] The simulation administrator may log onto the simulation in the same way as a user in the simulation  
15 (e.g., as shown in FIG. 4). The simulation administrator may enter a username and password that are unique to the administrator. Because the simulation administrator's username and password may be associated with the simulation administrator only, the  
20 electronic trading application may provide the simulation administrator with access to all screens of the trading simulation.

[0146] One of the simulation administrator's tasks may be to maintain the real-time aspect of the trading  
25 simulation. The simulation administrator may change start and end times for trading simulation sessions both during and prior to the start of the simulation.

[0147] FIG. 22 shows an illustrative real times maintenance screen 2000 that may be provided to a user  
30 such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display real times maintenance screen

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[0148] Side menu area 2002 may be included in any of  
FIGS. 9-34 that require a side menu. Some of the  
options provided in side menu area 2002 may include the  
options provided in side menu area 802 for a user  
(e.g., organisation option, position option, originate  
option, trade option, news option, reporting option,  
timeline option, demo option, log out option, and about  
the simulation option). Side menu area 2002 may  
provide additional options for the simulation  
administrator. Side menu area 2002 may include a  
maintain real times option 2022, a customise news links  
option 2024, a display category winners option 2026, a  
simulation maintenance option 2028, an organisation  
maintenance option 2030, a country maintenance option  
2032, a start/stop simulation option 2034, or any other  
suitable option related to the simulation  
administrator's tasks. The options included in side  
menu area 2002 may allow the simulation administrator  
to access various screens within the electronic trading  
simulation. For example, when the simulation  
administrator selects country maintenance option 2032  
from real times maintenance screen 2000, the electronic  
trading application may display a country maintenance  
screen.

[0149] Real times maintenance screen 2000 may include a time entry region 2004 that provides the simulation administrator with the ability to maintain the real time aspect of the simulation. The simulation administrator may enter start times and end times for the various sessions of the trading simulation, such as

registration, trading, and reconciliation. For example, the simulation administrator may enter a start time in a start date field 2014 and a start time field 2016. The simulation administrator may enter an end  
5 time in an end date field 2018 and an end time field 2020. As shown, the simulation administrator may only set some of the start and end times shown in time entry region 2004. This is because once a session has ended, the simulation administrator may no longer change the  
10 start and end times. This reflects the real-time aspect of the trading simulation.

[0150] The simulation administrator may enter a time in an increase time text box 2006 by which to increase all times in time entry region 2004. For example, the  
15 simulation administrator may enter a time of five minutes in increase time text box 2006. When the simulation administrator enters this time, the electronic trading application may increase all applicable start and end times in time entry region  
20 2004 (e.g., times for sessions that have not yet finished) by five minutes.

[0151] When the simulation administrator selects a clear all button 2008, the electronic trading application may clear all entries in time entry region  
25 2004. When the simulation administrator selects submit button 2010, the electronic trading application may update the start and end times for the simulation according to the entries in time entry region 2004. This update may be reflected in timeline screen 1700 of  
30 FIG. 18.

[0152] As described above in the context of FIGS. 16-17, the simulation administrator may release news announcements throughout the duration of the trading

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simulation. The electronic trading application may provide the simulation administrator with a customise simulation news screen so that the administrator may create these news announcements.

[0154] Customise simulation news screen 2100 may include a news article status region 2104. News article status region 2104 may provide the simulation administrator with a list of unreleased news articles, if any. For example, the simulation administrator may create a news announcement in customise simulation news screen 2100, but refrain from releasing the announcement to the participants in the simulation. As shown, there are no unreleased news articles to display. A news article list 2106 may provide the simulation administrator with a list of news articles to release to the participants in the simulation. As described above, these articles may be articles that the simulation administrator created but refrained from releasing. In another example, these articles may be articles that have already been released in previous simulations or in the same simulation. The simulation administrator may select a news article from news article list 2106. When the simulation administrator selects add button 2108, the electronic trading





[0158] The simulation administrator may select an issue class and country from an issue class and country menu 2210. For example, the news article may affect a specific type of emission reductions, such as all types, clean development mechanisms (CDMs), joint implementations (JIs), emission allowances (EAs), or any other suitable type of emission reductions. Such emission reductions may be associated with a specific country assigned to the participants in the simulation, for example, Gondwana, Narnia, Utopia, or any other suitable country. As shown, the simulation administrator has chosen emission allowances as the issue class. The simulation administrator has selected "all countries" from issue class and country menu 2210 such that the emission allowances may be applied to all countries participating in the electronic trading simulation.

[0159] The simulation administrator may select a project type from a project type menu 2212. For example, the news article may affect any type of project, such as all types, forestry, land use change, methane, technology/process change, or any other suitable type of project. As shown, the simulation administrator has chosen a project type of all types.

[0160] The vintage may be selected from a vintage menu 2214. The vintage may be the year or years when the news article is scheduled to have an affect on the simulation participants. As shown, for example, the simulation administrator has chosen year 2003 through year 2005.

[0161] The simulation administrator may enter a percentage of volume of CO<sub>2</sub>e emission reductions to effect in a volume effect text box 2216. The

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percentage may be the percentage of volume of CO<sub>2</sub>e that the news article will affect in the selected vintage year or years. For example, the simulation administrator may enter a percentage of -25% in volume effect text box 2216. Thus, the emission reductions selected in issue class and country menu 2210 and project type menu 2212 will decrease in amount by 25 percent in the years 2003 through 2005. This effect demonstrates how news articles may create risk in the trading simulation. In another example, the news article may have no effect on the user's organisation. It may merely create noise to distract the user from other activities in the trading simulation. When the simulation administrator selects a delete button 2218, the electronic trading application may delete any entries made in news article creation screen 2200.

[0162] When the simulation administrator selects a save button 2220, the electronic trading application may save the entries made in news article creation screen 2200 and may display a customise simulation news screen that includes the new news announcement.

[0163] FIG. 25 shows another illustrative customise simulation news screen 2300 that includes the unreleased news article created in FIG. 24. Customise simulation news screen 2300 is substantially similar to customise simulation news screen 2100 of FIG. 23. However, as illustrated, customise simulation news screen 2300 includes an unreleased news article.

[0164] In connection with the unreleased news article, customise simulation news screen 2300 may include a headline 2302, a release round 2304, and an edit button 2306. Headline 2302 may be the headline that the simulation administrator entered in news

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article creation screen 2200 in headline text box 2202 (as shown in FIG. 24). Release round 2304 may be the release round that the simulation administrator selected from release round drop-down menu 2208 (FIG. 24). The simulation administrator may select edit button 2306 to make any changes to the article prior to release. When the simulation administrator selects edit button 2306, the electronic trading application may display a screen such as news article creation screen 2200 of FIG. 24.

[0165] The electronic trading application may provide the simulation administrator with the ability to maintain the simulation parameters throughout the simulation (e.g., the cost curve, business-as-usual curve, interest rate, or any other suitable simulation parameter).

[0166] FIG. 26 shows an illustrative simulation maintenance screen 2400 that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display simulation maintenance screen 2400 when the simulation administrator selects simulation maintenance option 2028 from side menu area 2002 of any other screen.

[0167] The simulation administrator may add a new simulation by selecting an add simulation button 2408. When the simulation administrator selects add simulation button 2408, the electronic trading application may display a screen (not shown) that allows the simulation administrator to create a new simulation.

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[0168] The simulation administrator may maintain the parameters for an active simulation by selecting the active simulation from an active simulations drop-down menu 2404. The simulation administrator may select an edit button 2406 to access a screen from which to make edits to the selected simulation.

[0169] FIG. 27 shows an illustrative simulation parameter edit screen 2500 that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display simulation parameter edit screen 2500 when the simulation administrator selects edit button 2406 of simulation maintenance screen 2400 (FIG. 26).

[0170] The simulation administrator may have the ability to edit the text presented in text boxes 2502, 2504, 2506, 2508, and 2510. The electronic trading application may present the name of the current simulation in name text box 2502, for example, US Demo. In announcement year text box 2504, the electronic trading application may present an announcement year, for example, year 2002. The announcement year may be the year in which the emission allowances for the participants in the simulation are to be announced. The electronic trading application may present a percentage for the slope of a cost curve in cost curve text box 2506, for example, zero percent. The cost curve (not shown) may graphically present the amount of money necessary to produce a certain amount of emission reductions over a span of time. For example, with a cost curve slope of zero percent, the cost of producing CO<sub>2</sub>e emission reductions over time does not change.

[0171] The electronic trading application may present a percentage for a slope of a business-as-usual curve in business-as-usual text box 2508, for example, zero percent. The business-as-usual curve (not shown) may graphically present the amount of carbon dioxide equivalent emissions produced by a participant over a span of time. For example, with a business-as-usual curve slope of zero percent, the emissions produced by the participant does not change over time.

10 [0172] The electronic trading application may present an interest rate in interest text box 2510, for example, seven percent. The interest rate in interest percentage text box 2510 may correspond to the current interest rate. For example, if the user of the simulation is participating in the trading simulation from the United States, the simulation administrator may input an interest rate corresponding to the current interest rate in the United States. This helps to make the trading simulation as realistic as possible.

20 [0173] When the simulation administrator selects a save button 2512, the electronic trading application may update any changes made to one or more of text boxes 2502, 2504, 2506, 2508, and 2510 accordingly. When the simulation administrator selects a back button 2514, the electronic trading application may display the previous screen, such as simulation maintenance screen 2400 of FIG. 26.

[0174] As described above in the context of FIGS. 26-27, the simulation administrator may edit various parameters of the trading simulation. The electronic trading application may also provide the simulation administrator with the ability to edit various

parameters in connection with any organisations participating in the simulation.

[0175] FIG. 28 shows an illustrative organisation maintenance screen 2600 that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display organisation maintenance screen 2600 when the simulation administrator selects organisation maintenance option 2030 from side menu area 2002 of any other screen.

[0176] The simulation administrator may select an existing organisation (e.g., an organisation that is already set-up to participate in the trading simulation) from an existing organisation drop-down menu 2608. When the simulation administrator selects an edit button 2610 to edit various attributes of the organisation, the electronic trading application may provide the simulation administrator with a screen (not shown) that includes the attributes of the organisation for editing. When the simulation administrator selects a delete button 2612, the electronic trading application may delete the selected organisation from the simulation.

[0177] Organisation maintenance screen 2600 may include an organisation type drop-down menu 2604. The electronic trading application may provide the simulation administrator with the ability to add a new organisation in addition to any organisations already existing in the simulation by selecting a type from organisation type drop-down menu 2604. When the simulation administrator selects an add button 2606, the electronic trading application may display a screen

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in which the administrator may input attributes of the new organisation.

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5 [0178] FIG. 29 shows an illustrative organisation details screen 2700 that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display organisation details screen 2700 when the simulation administrator selects add button 2606 of  
10 FIG. 28 to add a new organisation to the trading simulation.

[0179] The details that the simulation administrator may enter in organisation details screen 2700 may reflect an actual entity (e.g., an entity that a  
15 specific user represents). For example, the details may be attributes of a user's actual organisation (e.g., company, country, non-profit organisation, or any other suitable entity). The simulation administrator may enter a name for the new organisation  
20 in a name text box 2702, for example, John's Cattle Company. The simulation administrator may enter a description of the new organisation (e.g., John's Cattle Company is a company that...) in a description text box 2704. The description may be a short synopsis  
25 of the new organisation.

[0180] In text boxes 2706, 2708, 2710, and 2712, the simulation administrator may input values corresponding the new organisation's available cash. For example, an amount of starting cash may be entered in starting cash  
30 text box 2706. A borrowing limit (e.g., an amount of money that the new organisation may borrow throughout the duration of the trading simulation) may be entered in borrowing limit text box 2708. A yearly cash



allocation may be entered in yearly cash allocation text box 2710, and the corresponding yearly cash change may be entered in yearly cash change text box 2712. An industry type may be selected from drop-down menu 2714.

- 5 As shown, for example, an industry type such as "Power Generator" may be selected.

[0181] The simulation administrator may select a country for the new organisation (e.g., Utopia) from a country drop-down menu 2716. The corresponding issue  
10 class and project type may be selected from drop-down menus 2718 and 2720, respectively. To save information entered or selected in organisation details screen 2700, the simulation administrator may select save button 2722. When the simulation administrator selects  
15 save button 2722, the electronic trading application may display organisation maintenance screen 2600 of FIG. 28.

[0182] To access the values that create a cost curve for the new organisation, the simulation administrator  
20 may select a cost curve button 2724. When the simulation administrator selects cost curve button 2724, the electronic trading application may display a cost curve screen.

[0183] FIGS. 30-31 show an illustrative cost curve  
25 maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display the cost curve maintenance screen when the  
30 simulation administrator selects cost curve button 2724 of FIG. 29.

[0184] FIG. 30 shows a portion 2800 of the illustrative cost curve maintenance screen. The

[0185] Cost curve maintenance screen 2800 may include a cost curve table 2802. Cost curve table 2802 may track the cost of CO<sub>2</sub>e emission reductions in a selected volume increment. For example, cost curve table 2802 may track the cost per tonne of CO<sub>2</sub>e emission reductions in increments of 100,000 tonnes. The increments are shown as starting at a value given in a column 2804 and ending at a value given in a column 2806. The electronic trading application may provide a cost per tonne column 2808 for entry of the cost per tonne of CO<sub>2</sub>e emission reductions in text boxes 2810. Cost per tonne column 2808 may include as many text boxes 2810 as necessary to accurately define the cost curve.

[0186] FIG. 31 shows another portion 2820 of the cost curve maintenance screen. Cost curve maintenance screen 2820 may include an apply last cost to rest option with corresponding yes and no boxes 2822 and 2824, respectively. The option to apply the last cost to rest may provide the simulation administrator with the ability to apply a value in the last cost per tonne text box 2810 in cost per tonne column 2808 to the entirety of the column. Using this option, the simulation administrator may not need to enter identical cost values in all of the text boxes 2810. When the simulation administrator selects a save button 2826, the electronic trading application may save the values entered in cost per tonne column 2808 and return to FIG. 29.

[0187] Referring back to FIG. 29, to access the yearly values (e.g., business-as-usual values and allocations following from the Kyoto Protocol) for the organisation, the simulation administrator may select a yearly values button 2726. When the simulation administrator selects yearly values button 2726, the electronic trading application may display a yearly values maintenance screen.

[0188] FIGS. 32-33 show an illustrative yearly values maintenance screen that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display the yearly values maintenance screen when the simulation administrator selects yearly values button 2726 of FIG. 29.

[0189] FIG. 32 shows a portion 2900 of the yearly values maintenance screen. The electronic trading application may display another portion of the screen, as shown in FIG. 33, when the simulation administrator uses scroll bar 248.

[0190] Yearly values maintenance screen 2900 may include a yearly values table 2902. Yearly values table 2902 may track various attributes pertaining to the new organisation created in organisation details screen 2700 of FIG. 29. For example, yearly values table 2902 may include a business-as-usual column 2904 that includes values for CO<sub>2</sub>e emissions over a span of time in text boxes 2906. Such values may be provided in tonnes.

[0191] Yearly values table 2902 may include a Kyoto allocation column 2908 that includes values of CO<sub>2</sub>e emissions in text boxes 2910. Such values may be

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values that the new organisation may be limited to in order to comply with the guidelines of the Kyoto Protocol. Forecast low and forecast high columns 2912 and 2916, respectively, may include a range of Kyoto allocation values in text boxes 2914 and 2918. For example, forecast low column 2912 may include low values of CO<sub>2</sub>e emissions in text boxes 2914 (e.g., a worst case scenario). Forecast high column 2916 may include high values of CO<sub>2</sub>e emissions in text boxes 2918 (e.g., a best case scenario).

[0192] FIG. 33 shows another portion 2930 of the yearly values maintenance screen. Yearly values maintenance screen 2930 may include an apply last value to rest option with corresponding yes and no boxes 2932 and 2934, respectively. The option to apply the last value to rest may provide the simulation administrator with the ability to apply a value in the last of each of text boxes 2906, 2910, 2914, 2918 to the entirety of the corresponding columns. Using this option, the simulation administrator may not need to enter identical values in all text boxes 2906, 2910, 2914, 2918. When the simulation administrator selects save button 2936, the electronic trading application may save the values entered in columns 2904, 2908, 2912, and 2916 and display FIG. 29.

[0193] As described above in the context of FIGS. 28-33, the electronic trading application may provide the simulation administrator with the ability to edit various attributes of organisations participating in the trading simulation. The electronic trading application may also provide the simulation administrator with the ability to edit various

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parameters in connection with any countries that are set-up for participation in the simulation.

[0194] FIG. 34 shows an illustrative country maintenance screen 3000 that may be provided to a user such as a simulation administrator by the electronic trading application in accordance with some embodiments of the present invention. The electronic trading application may display country maintenance screen 3000 when the simulation administrator selects country maintenance option 2032 from side menu area 2002 of any other screen.

[0195] Country maintenance screen 3000 may include various text boxes to define a new country for the trading simulation. The simulation administrator may enter a name for the new country in a name text box 3004, for example, Zenith. An acronym for the new country may be entered in an acronym text box 3006, for example, ZEN. In a supplementarity text box 3008, the simulation administrator may enter a percentage of supplementarity for the new organisation. Supplementarity is the percentage of CO<sub>2</sub>e emission reductions that a country may not sell. For example, if the supplementarity percentage for the new country is six percent, then six percent of all CO<sub>2</sub>e emission reductions created the country may not be traded.

[0196] The simulation administrator may enter a percentage for early action credit in an early action credit text box 3010. Early action credit may be the percentage of an organisation's CO<sub>2</sub>e emission reductions that may be credited back to the organisation in response to emission reductions that occur before a specific date. Such a date may be a date in connection with the Kyoto Protocol, such as the start of a period

of time in which countries must comply with the Kyoto Protocol (e.g., the Kyoto Protocol Commitment Period).

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[0197] A capped country option 3012 may provide the simulation administrator with the ability to cap the  
5 new country's emission allowances. For example, the simulation administrator may select a yes option 3022 to cap the country's emissions. The simulation administrator may select a no option 3024 so that the new country does not have a cap on its emissions. When  
10 the simulation administrator selects an add button 3014, the electronic trading application may make the new country as defined in country maintenance screen 3000 available as an option in the trading simulation.

[0198] The simulation administrator may edit the  
15 attributes of an existing country in the trading simulation by selecting a country from a country drop-down menu 3016 (e.g., Gondwana). When the simulation administrator selects an edit button 3018, the electronic trading application may display a screen  
20 (not shown) that includes attributes of the selected country. Such a screen may include attributes such as those shown in country maintenance screen 3000. When the simulation administrator selects a delete button 3020, the electronic trading application may delete the  
25 selected country from the simulation.

[0199] The screens shown in FIGS. 3-34 are merely illustrative. Any other suitable menus, options, button, text boxes, or other content may be provided.

[0200] FIGS. 35-37 show flow charts of illustrative  
30 steps involved in simulating the trading of carbon dioxide equivalent emission reductions in accordance with the present invention. Some or all of the steps may be performed.

[0201] FIG. 35 shows a flow chart of illustrative steps involved in the electronic trading simulation in accordance with some embodiments of the present invention. At step 3100, the electronic trading

[0202] FIG. 36 shows a flow chart of illustrative steps involved in a user's participation in the electronic trading simulation (e.g., step 3110 of FIG. 35) in accordance with some embodiments of the present invention. At step 3112, the user may select an organisation to participate in the trading simulation. An illustrative example of step 3112 is shown in organisation menu screen 800 of FIG. 9 and organisation review screen 900 of FIG. 10.

[0203] At step 3114, the user may review the position of the organisation. An illustrative example of step 3114 is shown in position review screen 1000 of FIG. 11 and graphing screen 1100 of FIG. 12. At step 3116, the user may generate credits or internal

reductions. An illustrative example of step 3116 is shown in origination screen 1200 of FIG. 13 and graphing screen 1300 of FIG. 14. At step 3118, the user may trade carbon dioxide equivalent emission reductions. An illustrative example of step 3118 is shown in trading screen 1400 of FIG. 15. At step 3120, the user may review a late breaking news announcement. An illustrative example of step 3120 is shown in position review screen 1500 of FIG. 16 and news screen 1600 of FIG. 17.

[0204] At step 3122, the user may review the timeline of sessions for the electronic trading simulation. An illustrative example of step 3122 is shown in timeline screen 1700 of FIG. 18. At step 3124, the user may review a report at the end of the electronic trading simulation. An illustrative example of step 3124 is shown in the simulation report screen illustrated in FIGS. 19 and 20.

[0205] FIG. 37 shows a flow chart of illustrative steps involved in the simulation administrator's maintenance of the electronic trading simulation in real-time (e.g., step 3150 of FIG. 35) in accordance with some embodiments of the present invention. At step 3154, the simulation administrator may modify the timeline for the electronic trading simulation. An illustrative example of step 3154 is shown in real times maintenance screen 2000 of FIG. 22. At step 3156, the simulation administrator may create a news announcement. An illustrative example of step 3156 is shown in news article creation screen 2200 of FIG. 24.

[0206] At step 3158, the simulation administrator may release a news announcement. An illustrative example of step 3158 is shown in customise simulation

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news screen 2100 of FIG. 23. At step 3160, the simulation administrator may modify simulation parameters. An illustrative example of step 3160 is shown in simulation maintenance screen 2400 of FIG. 26 and simulation parameter edit screen 2500 of FIG. 27. At step 3162, the simulation administrator may modify organisation parameters. An illustrative example of step 3162 is shown in organisation maintenance screen 2600 of FIG. 28, organisation details screen 2700 of FIG. 29, the cost curve maintenance screen illustrated in FIGS. 30 and 31, and the yearly values maintenance screen illustrated in FIGS. 32 and 33. At step 3164, the simulation administrator may modify country parameters. An illustrative example of this step is shown in country maintenance screen 3000 of FIG. 34.

[0207] Thus, an electronic trading system for simulating the trading of carbon dioxide equivalent emission reductions and methods of use are provided. One skilled in the art will realize that the present invention can be practiced by other than the described embodiments, which are presented for purposes of illustration and not of limitation, and that the present invention is limited only by the claims which follow.

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